

10/10/2018

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Initial Review Exposure Report

Chemical ID: P-18-0307 Reviewer: Orentas/HDJ

SF_SF-Sustainable Futures

| Exposure Scenario | Water | | | | | | Land fill(non-sludge) | Stack | | Fugitive | |
|-----------------------|------------------|-------------------|------------------|-------------------|------------------------|---------------------------|-----------------------|------------------|-------------------|------------------|-------------------|
| Release Activity(ies) | Drinking Water | | Fish Ingestion | | | | | | | | |
| exposure Calculations | ADR mg/kg/day | LADD mg/kg/day | ADR mg/kg/day | LADD mg/kg/day | 7Q10cc 1000 ug/l | PDM Exceeded # Days | LADD mg/kg/day | ADR mg/kg/day | LADD mg/kg/day | ADR mg/kg/day | LADD mg/kg/day |
| PROC:Max ADR | 4.24e-2 | -- | -- | -- | -- | -- | -- | -- (--) | -- (--) | -- (--) | -- (--) |
| PROC:Max LADD | -- | 5.95e-5 | -- | -- | -- | -- | -- | -- (--) | -- (--) | -- (--) | -- (--) |
| USE:Max ADR | 1.48e-5 | -- | -- | -- | -- | -- | -- | -- (--) | -- (--) | -- (--) | -- (--) |
| USE:Max LADD | -- | 8.62e-8 | -- | -- | -- | -- | -- | -- (--) | -- (--) | -- (--) | -- (--) |

1. Exposure scenario titles consist of release activity followed by exposure calculation abbreviation.
2. Release activities are from engineering report's Manufacturing (Mfg), Processing (Proc) and Use release activity labels. Multiple release activities are combined in one exposure scenario if their releases occur at same location.
3. Exposure calculations are Acute Dose Rate (ADR), Lifetime Average Daily Dose (LADD), and Probabilistic Dilution Model (PDM). There may be one, two, or all three exposure calculations per exposure scenario. CC is the aquatic concentration of concern.
4. This column displays concentration values for the 7Q10 streamflow, which is defined as the average daily streamflow of the seven consecutive days of lowest flow within a ten year period.



Chemical ID: P-18-0307

Assessor: Orentas/HDJ

| |
|------------------------|
| ENVIRONMENTAL RELEASES |
|------------------------|

Scenario#:1

Number of Release Sites:

Release Activity: PROC:Max ADR

| | | | | |
|----------------------|-------|-------------------------------|-------|----------|
| Release Description: | WATER | LANDFILL Non-sludge/Sludge | STACK | FUGITIVE |
|----------------------|-------|-------------------------------|-------|----------|

Total Releases:

| | | | |
|--|--|--|--|
| | | | |
| (kg/yr) | (kg/yr) | (kg/yr) | (kg/yr) |

Non-sludge/Sludge

Release Days/yr:

| | | | |
|--|--|--|--|
| | | | |
| (kg/site/day) | (kg/site/day) | (kg/site/day) | (kg/site/day) |

Remarks:

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-18-0307

SIC-CODE BASED HUMAN AND AQUATIC EXPOSURES TO SURFACE WATER RELEASES

SCENARIO #: 1

Number of Sites: 1

RELEASE

ACTIVITY:PROC:Max ADR

SIC-CODE DESCRIPTION: 281210

EXPOSED POPULATION: Adult

| WWT REMOVAL (%) | RELEASE DAYS | PRETREATMENT RELEASE (kg/site/day) | POSTTREATMENT RELEASE (kg/site/day) | DWT (%) | BCF (L/kg) |
|-----------------------|-----------------|--|---|------------|---------------|
| 100 | 365 | 0.00 | 0.00 | 0.00 | 0.00 |

| AQUATIC EXPOSURE ESTIMATES - SURFACE WATER | | | | | | | | | |
|--|-------------------|-------------------|-------|-------|-------|---------------------|---------|---------|---------|
| PLANT TYPE | % ILE FACILITY | STREAM FLOW (MLD) | | | | STREAM CONC. (µg/l) | | | |
| | | Harmonic Mean | 30Q5 | 7Q10 | 1Q10 | Harmonic Mean | 30Q5 | 7Q10 | 1Q10 |
| ALL | 50 | 216.47 | 60.31 | 37.13 | 30.71 | 64.67 | 232.13 | 377.05 | 455.88 |
| ALL | 10 | 35.44 | 12.51 | 7.29 | 6.10 | 395.03 | 1119.10 | 1920.44 | 2295.08 |

| DRINKING WATER AND FISH INGESTION EXPOSURE ESTIMATES | | | | | | |
|--|------------------------|----------|----------------------|------------------------|------|----------------------|
| Exposure Units | Drinking Water Results | | Drinking Water Units | Fish Ingestion Results | | Fish Ingestion Units |
| | 50% | 10% | | 50% | 10% | |
| Cancer | | | | | | |
| LADD _{pot} | 9.75E-06 | 5.95E-05 | mg/kg/day | 0.00 | 0.00 | mg/kg/day |
| LADC _{pot} | 7.50E-04 | 4.58E-03 | mg/L | 0.00 | 0.00 | mg/kg |
| Acute | | | | | | |
| ADR _{pot} | 8.79E-03 | 4.24E-02 | mg/kg/day | 0.00 | 0.00 | mg/kg/day |

SIC Code Comments:

Chemical ID: P-18-0307

SCENARIO #: 1

RELEASE ACTIVITY: PROC:Max ADR

SIC CODE RESULTS

| COC (µg/L) | Percent of Year COC Exceeded | Number of Days COC Exceeded | Release days/year | Loading (kg/site/day) | Waste Water Treatment (%) | High/Avg Analysis |
|------------|------------------------------|-----------------------------|-------------------|-----------------------|---------------------------|-------------------|
| ████ | █ | █ | ████ | ████ | ████ | ████ |

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-18-0307

Assessor: Orentas/HDJ

ENVIRONMENTAL RELEASES

Scenario#:2

Number of Release Sites: 1.

Release Activity: PROC:Max LADD

| Release Description: | WATER | LANDFILL Non-sludge/Sludge | STACK | FUGITIVE |
|----------------------|--------------------|-------------------------------|----------------------|----------------------|
| Total Releases: | 1400.00 (kg/yr) | N/A (kg/yr) | N/A (kg/yr) | N/A (kg/yr) |
| Non-sludge/Sludge | | | | |
| Release Days/yr: | ■ | 0.00/0.00 | N/A | N/A |
| Per Site Release: | ■ | N/A/0.00 (kg/site/day) | N/A (kg/site/day) | N/A (kg/site/day) |

Remarks:

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-18-0307

SIC-CODE BASED HUMAN AND AQUATIC EXPOSURES TO SURFACE WATER RELEASES

SCENARIO #: 2

RELEASE
ACTIVITY:PROC:Max LADD

EXPOSED POPULATION: Adult

| WWT REMOVAL (%) | RELEASE DAYS | PRETREATMENT RELEASE (kg/site/day) | POSTTREATMENT RELEASE (kg/site/day) | DWT (%) | BCF (L/kg) |
|-----------------------|-----------------|--|---|------------|---------------|
| | | | | | |

| AQUATIC EXPOSURE ESTIMATES - SURFACE WATER | | | | | | | | | |
|--|-------------------|-------------------|-------|-------|-------|---------------------|------|------|------|
| PLANT TYPE | % ILE FACILITY | STREAM FLOW (MLD) | | | | STREAM CONC. (µg/l) | | | |
| | | Harmonic Mean | 30Q5 | 7Q10 | 1Q10 | Harmonic Mean | 30Q5 | 7Q10 | 1Q10 |
| ALL | 50 | 216.47 | 60.31 | 37.13 | 30.71 | N/A | N/A | N/A | N/A |
| ALL | 10 | 35.44 | 12.51 | 7.29 | 6.10 | N/A | N/A | N/A | N/A |

| DRINKING WATER AND FISH INGESTION EXPOSURE ESTIMATES | | | | | | |
|--|------------------------|----------|----------------------|------------------------|------|----------------------|
| Exposure Units | Drinking Water Results | | Drinking Water Units | Fish Ingestion Results | | Fish Ingestion Units |
| | 50% | 10% | | 50% | 10% | |
| Cancer | | | | | | |
| LADD _{pot} | 9.75E-06 | 5.95E-05 | mg/kg/day | 0.00 | 0.00 | mg/kg/day |
| LADC _{pot} | 7.50E-04 | 4.58E-03 | mg/L | 0.00 | 0.00 | mg/kg |
| Acute | | | | | | |
| ADR _{pot} | N/A | N/A | mg/kg/day | N/A | N/A | mg/kg/day |

SIC Code Comments:

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-18-0307

Assessor: Orentas/HDJ

ENVIRONMENTAL RELEASES

Scenario#:3

Number of Release Sites

Release Activity: USE:Max ADR

| Release Description: | WATER | LANDFILL Non-sludge/Sludge | STACK | FUGITIVE |
|----------------------|-------|-------------------------------|-------|----------|
|----------------------|-------|-------------------------------|-------|----------|

Total Releases:

(kg/yr)

(kg/yr)

(kg/yr)

(kg/yr)

Non-sludge/Sludge

Release Days/yr:

0.00/0.00

N/A

N/A

Per Site Release:

(kg/site/day)

(kg/site/day)

(kg/site/day)

(kg/site/day)

Remarks:

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-18-0307

SIC-CODE BASED HUMAN AND AQUATIC EXPOSURES TO SURFACE WATER RELEASES

SCENARIO #: 3

Number of Site

RELEASE ACTIVITY:USE:Max
ADR

EXPOSED POPULATION: Adult

| WWT REMOVAL (%) | RELEASE DAYS | PRETREATMENT RELEASE (kg/site/day) | POSTTREATMENT RELEASE (kg/site/day) | DWT (%) | BCF (L/kg) |
|-----------------------|-----------------|--|---|------------|---------------|
| | | | | | |

| AQUATIC EXPOSURE ESTIMATES - SURFACE WATER | | | | | | | | | |
|--|-------------------|-------------------|--------|-------|-------|---------------------|----------|----------|----------|
| PLANT TYPE | % ILE FACILITY | STREAM FLOW (MLD) | | | | STREAM CONC. (µg/l) | | | |
| | | Harmonic Mean | 30Q5 | 7Q10 | 1Q10 | Harmonic Mean | 30Q5 | 7Q10 | 1Q10 |
| ALL | 50 | 288.00 | 123.84 | 78.18 | 66.05 | 1.81E-02 | 4.20E-02 | 6.65E-02 | 7.87E-02 |
| ALL | 10 | 39.60 | 13.29 | 7.76 | 7.57 | 0.13 | 0.39 | 0.67 | 0.69 |

| DRINKING WATER AND FISH INGESTION EXPOSURE ESTIMATES | | | | | | |
|--|------------------------|----------|----------------------|------------------------|------|----------------------|
| Exposure Units | Drinking Water Results | | Drinking Water Units | Fish Ingestion Results | | Fish Ingestion Units |
| | 50% | 10% | | 50% | 10% | |
| Cancer | | | | | | |
| LADD _{pot} | 5.44E-10 | 3.96E-09 | mg/kg/day | 0.00 | 0.00 | mg/kg/day |
| LADC _{pot} | 4.19E-08 | 3.04E-07 | mg/L | 0.00 | 0.00 | mg/kg |
| Acute | | | | | | |
| ADR _{pot} | 1.59E-06 | 1.48E-05 | mg/kg/day | 0.00 | 0.00 | mg/kg/day |

SIC Code Comments:

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-18-0307

Assessor: Orentas/HDJ

| |
|------------------------|
| ENVIRONMENTAL RELEASES |
|------------------------|

Scenario#:4

Number of Release Sites: 125.

Release Activity: USE:Max LADD

| Release Description: | WATER | LANDFILL | STACK | FUGITIVE |
|----------------------|-------|-------------------|-------|----------|
| | | Non-sludge/Sludge | | |

Total Releases:

| | | | | |
|---------|---------|---------|---------|--|
| | | | | |
| (kg/yr) | (kg/yr) | (kg/yr) | (kg/yr) | |

Non-sludge/Sludge

Release Days/yr:

| | | | | |
|--|--|--|--|--|
| | | | | |
| | | | | |

Per Site Release:

(kg/site/day) (kg/site/day) (kg/site/day) (kg/site/day)

Remarks:

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-18-0307

SIC-CODE BASED HUMAN AND AQUATIC EXPOSURES TO SURFACE WATER RELEASES

SCENARIO #: 4

Number of Sites: [REDACTED]

RELEASE ACTIVITY:USE:Max
LADD

EXPOSED POPULATION: Adult

| WWT REMOVAL (%) | RELEASE DAYS | PRETREATMENT RELEASE (kg/site/day) | POSTTREATMENT RELEASE (kg/site/day) | DWT (%) | BCF (L/kg) |
|-----------------------|-----------------|--|---|------------|---------------|
| [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] |

AQUATIC EXPOSURE ESTIMATES - SURFACE WATER

| PLANT TYPE | % ILE FACILITY | STREAM FLOW (MLD) | | | | STREAM CONC. (µg/l) | | | |
|---------------|-------------------|-------------------|--------|-------|-------|---------------------|------|------|------|
| | | Harmonic Mean | 30Q5 | 7Q10 | 1Q10 | Harmonic Mean | 30Q5 | 7Q10 | 1Q10 |
| ALL | 50 | 288.00 | 123.84 | 78.18 | 66.05 | N/A | N/A | N/A | N/A |
| ALL | 10 | 39.60 | 13.29 | 7.76 | 7.57 | N/A | N/A | N/A | N/A |

DRINKING WATER AND FISH INGESTION EXPOSURE ESTIMATES

| Exposure Units | Drinking Water Results | | Drinking Water Units | Fish Ingestion Results | | Fish Ingestion Units |
|---------------------|------------------------|----------|----------------------|------------------------|------|----------------------|
| | 50% | 10% | | 50% | 10% | |
| Cancer | | | | | | |
| LADD _{pot} | 1.19E-08 | 8.62E-08 | mg/kg/day | 0.00 | 0.00 | mg/kg/day |
| LADC _{pot} | 9.12E-07 | 6.63E-06 | mg/L | 0.00 | 0.00 | mg/kg |
| Acute | | | | | | |
| ADR _{pot} | N/A | N/A | mg/kg/day | N/A | N/A | mg/kg/day |

SIC Code Comments: